

REMARKS

Applicants respectfully request further examination and reconsideration in view of the instant response. Claims 1-20 remain pending in the case. Claims 1-20 are rejected. Claims 1, 3, 9-17 and 20 are amended herein. No new matter has been added.

Claim Objections

Claims 1, 3, 9-17, and 20 are objected to because of informalities.

Applicants wish to thank the Examiner for indicating the informalities. As such,

Applicants have amended Claims 1, 3, 9-17, and 20 to overcome the objections.

Accordingly, Applicants respectfully request the objections be removed.

Claim Rejections

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Claims 15-20 are rejected under U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicants have amended Independent Claim 15 to overcome the lack of antecedent basis for the term "said network." As such, Applicants respectfully request the rejection be removed.

35 U.S.C. §102(a) – Claims 1-6, 8-11, 14-18 and 20

Claims 1-6, 8-11, 14-18 and 20 are rejected under 35 U.S.C. §102(a) as being anticipated by Copeland III (2002/0144156). Applicants have reviewed the cited reference and respectfully submit that the embodiments of the present invention as recited in Claims 1-6, 8-11, 14-18 and 20 are not anticipated by Copeland for at least the following rationale.

Applicants respectfully direct the Examiner to independent Claim 1 that recites that an embodiment of the present invention is directed to (emphasis added):

A method for verifying port mapping integrity in a network,
comprising:
 accessing port binding information in a port authorization file
 in said network;
 querying a port mapper for a mapped port assignment;
 comparing said mapped port assignment to said port binding
 information; and
 initiating a response to said comparing

Independent Claims 8 and 15 recite similar features. Claims 2-6, that depend from independent Claim 1, Claims 9-11 and 14 that depend from Independent Claim 8, and 16-18 and 20 that depend from Independent Claim 15 also include these features.

MPEP §2131 provides:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). ... "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim.

Applicants respectfully submit that Copeland is very different from the claimed embodiments and fails to teach or suggest each element of Independent Claim 1. Similarly, Applicants submit that Copeland fails to teach or suggest the claimed features of Independent Claims 8 and 15.

Applicants understand Copeland to teach a port profiling engine that "analyzes the flow data to distinguish legitimate flows from probes" (paragraph [0060]). Copeland stores "the most commonly seen network services" for each IP address. Data flows are then compared to "the most commonly seen network services" for each IP address to determine if the traffic is legitimate.

Applicants submit that Copeland fails to teach or suggest “comparing said mapped port assignment to said port binding information,” as claimed. With the present claimed invention, the port binding information is established during initialization of the network (page 9 of the specification) and is not based on observed data flow as with Copeland.

The examiner has indicated that the “port binding information” of the present invention is “information listing which ports are actually being used.” This comparison is incorrect. As stated in the specification, the port binding information is established during initialization of the network (page 9 of the specification). The port binding information is not based on port usage. In other words, the port binding information is not directly related to “the ports actually being used” because unauthorized activity may be “using a port” but would not have corresponding port binding information. The present invention compares “the ports actually being used” to the “port binding information” to determine unauthorized port usage.

The “seen today” list of Copeland is vulnerable to attack. If the “seen today” list of Copeland is compromised, there is no way of identifying unauthorized port usage. In opposition, with the present invention, if the “mapped port assignment” is compromised, the un-authorized port usage will be identified when the “mapped port assignment” is compared to the port binding information

because they will be different. Copeland fails to teach or suggest comparing mapped port assignment to port binding information, as claimed.

For this rational, Copeland does not teach or suggest every element of Independent Claim 1 and similarly, Independent Claims 8 and 15. As such, Applicants believe Claims 1-6, 8-11, 14-18 and 20 are not anticipated by Copeland and respectfully request the rejection be removed.

35 U.S.C. §103(a) – Claims 7, 12, and 19

Claims 7, 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable Copeland in view of Hrabik (6,988,208). The rejection is respectfully traversed for the following rational.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). (MPEP 2143.03).

As stated above, Copeland fails to teach or suggest “comparing said mapped port assignment to said port binding information,” as claimed. Applicants submit that Hrabik fails to remedy the deficiencies of Copeland.

In particular, Hrabik fails to teach or suggest “comparing said mapped port assignment to said port binding information,” as claimed. Hrabik may teach a system for testing the integrity of a device on a target network (column 7, lines 16-17), however, Hrabik is silent to “comparing said mapped port assignment to said port binding information,” as claimed. Hrabik uses “multiple views” of network activity to determine attacks (column 8, lines 20-40) which is very different from “comparing said mapped port assignment to said port binding information,” as claimed.

As such, Claims 7, 12 and 19 are patentable over Copeland in view of Hrabik. Applicants respectfully request the rejection be removed for the rational presented above.

35 U.S.C. §103(a) – Claim 13

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Copeland in view of Nickles (6,134,591). The rejection is respectfully traversed for the following rational.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). (MPEP 2143.03).

As stated above, Copeland fails to teach or suggest “comparing said mapped port assignment to said port binding information,” as claimed. Applicants submit that Nickles fails to remedy the deficiencies of Copeland.

Nickles may teach the use of a digital signature to verify the source of data (column 10, lines 10-38), however, Nickles fails to teach or suggest “comparing said mapped port assignment to said port binding information,” as claimed.

Furthermore, Nickles teaches away from the present invention by describing in column 9, lines 25-30 “the random port generator module 88

randomly selects an unused port for which communication.” Random selection of port assignment would greatly compound the difficulty of maintaining the “port binding information” of the present invention.

For this rational, Claim 13 is patentable over Copeland in view of Nickles. Applicants respectfully request the rejection be removed.


CONCLUSION

Based on the arguments presented above, Applicants respectfully assert that Claims 1-20 overcome the rejections of record and, therefore, Applicants respectfully solicit allowance of these Claims.

Respectfully submitted,

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